

ABSTRACT OF THE DISCLOSURE

A fiber optic gyroscope with counter-propagating electromagnetic waves in a fiber-optic coil senses rotation about the coil. Such a fiber-optic gyroscope uses a bias modulation to bias the gyroscope on a rate sensitivity portion of the interferogram. Using a saw-tooth waveform as the bias modulation results in a system with many advantages over a system modulated by square waves or sinusoidal wave. For example, the system is less sensitive to cross coupling because the drive is significantly different than the detected signal. In addition, the saw-tooth waveform can be used in a closed loop scheme with the advantage of a frequency output proportional to the rate and a reduction or elimination of the known causes of dead band in a closed loop gyro.

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